

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification⁷:

E21D 20/02, 21/00

A1

(11) International Publication Number:

WO 00/60215

(43) International Publication Date:

12 October 2000 (12.10.00)

(21) International Application Number:

PCT/AU00/00285

(22) International Filing Date:

31 March 2000 (31.03.00)

(30) Priority Data:

PP 9553

31 March 1999 (31.03.99)

AU

(71) Applicant (for all designated States except US): HYDRAMATIC ENGINEERING PTY LIMITED [AU/AU]; 46 Kalaroo Road, Redhead, NSW 2290 (AU).

(72) Inventors; and

(75) Inventors/Applicants (for US only): CHARLTON, Paul [AU/AU]; 359 Coal Point Road, Coal Point, NSW 2283 (AU); FLYNN, Daniel [AU/AU]; 1A Ulan Road, North Lambton, NSW 2299 (AU).

(74) Agent: WALSH & ASSOCIATES; Patent and Trade Mark Attorneys, P.O. Box 4306, Penrith Plaza 2750, Sydney, NSW (AU).

(81) Designated States: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published

With international search report.

(54) Title: METHOD AND APPARATUS FOR INSERTION OF ROCK BOLTS

(57) Abstract

A drill head capable of attachment to a drilling machine for insertion of rock bolts into rock strata; the drill head comprising: a base block including means to facilitate attachment to the drilling machine; means for driving a spindle having a member at one end which receives a proximal end of a rock bolt including an internal cavity; an injection assembly including at least one internal passage for retaining a grouting compound, wherein, when the rock bolt is inserted in the member and when the injection member engages said member, the at least one passage is in communication with said internal cavity in said rock bolt; whereupon the injection assembly operates to inject a predetermined quantity of the grouting compound into a bolt hole in the rock strata via said internal cavity of the bolt.

